UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,143	06/30/2003	Boris Ginzburg	P-5751-US	8189

49444 7590 08/08/2007

PEARL COHEN ZEDEK LATZER, LLP
1500 BROADWAY, 12TH FLOOR
NEW YORK, NY 10036

EXAMINER	
FIGUEROA, MARISOL	
ART UNIT	**PAPER NUMBER**
2617	

MAIL DATE	DELIVERY MODE
08/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,143	GINZBURG ET AL.	
	Examiner	Art Unit	
	Marisol Figueroa	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 6/1/2007.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-6,10-18 and 22-41 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6,10-18 and 22-41 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 30 June 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-6, 10-18, and 22-41 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, this action is made FINAL.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 13-18, 22-24, and 41** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

A "computer readable medium encoded with a computer program" is normally considered to define structural and functional interrelationships between the computer program and the computer software and hardware components which permit the computer's program functionality to be realized and is thus normally statutory.

Consequently, the claimed term "program storage device having instructions readable by a machine" is considered to include the possibility of non-statutory subject matter as compared to a "computer readable medium encoded with a computer program".

In order to overcome this rejection, it is respectfully requested to amend the claims to recite a "computer readable medium encoded with a computer program"

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1, 13, 40, and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over BENVENISTE (US 2002/0163933 A1) in views of BYCHOWSKY et al. (US 6,856,628 B1), KAIKURANTA et al. (US 6,031,825), and LU et al. (US 6,473,815 B1).

Regarding claims 1 and 13, Benveniste discloses a method (and a program storage device having instructions readable by a machine) comprising:

for each of a set of data packets to be transmitted from a wireless communication device to an access point, determining the priority of the data packet as being high priority or not high priority (Abstract, lines 5-13; paragraph [0077], lines 5-9; paragraph [0122], lines 1-13; and paragraph [0130], lines 1-14; each wireless station can determine the urgency class (i.e., priority) of its pending packets according to an scheduling algorithm, for example some packets may have a higher urgency class (i.e., high priority) and others a lower urgency class (i.e., not high priority));

scheduling packets determined to be high priority for transmission (Abstract; lines 14-19; paragraph [0077], lines 9-14; higher urgency class packets are scheduled or ordered to be transmitted before transmitting packets of a lower urgency class).

But, Benveniste does not expressly disclose wherein the step of storing data packets determined to be not high priority in a buffer; and transmitting the data packets determined to be

not high priority upon the occurrence of a full buffer condition. However, this feature is well known in the art and Bychowsky is evidence of the fact. Bychowsky teaches a packet prioritization and transmission algorithm for the transportation of data packets having different priorities, characterized in that prematurely ends the transmission of a packet having a low priority and places it in a storage means (i.e., buffer) for transmitting a packet having a high priority, subsequently the low priority packet is transmitted once the transmission of the high priority packet is finished (Abstract; col. 2, lines 3-50). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Benveniste to include the step of storing data packets determined to be not high priority in a buffer, as suggested by Bychowsky, because such a modification would avoid the held up and the unacceptable delay in high priority transmissions since the lower priority packets would be held or stored until the transmission of high priority packets is terminated (col. 1, lines 25-36; col. 2, lines 27-42).

The combination of Benveniste and Bychowsky does not particularly disclose the step of transmitting the data packets determined to be not high priority upon the occurrence of a full buffer condition. However, Kaikuranta teaches a mobile phone comprising a FIFO buffer for temporarily store data in the audio and slow data channels. The buffer has a selected size so that when the buffer is full the data will be transmitted in order to not overflow the buffer (col. 5, line 62 – col. 6, lines 1-11). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Benveniste and Bychowsky to include the step of transmitting the data packets determined to be not high priority upon the

occurrence of a full buffer condition, as suggested by Kaikuranta, in order to avoid the overflow of the buffer and the discarding of low priority packets when the buffer becomes full.

Nevertheless, the combination of Benveniste, Bychowsky, and Kaikuranta does not particularly disclose that the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packet stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached.

However, Lu teaches the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached (col. 2, lines 33-36; col. 4, lines 38-53). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Benveniste, Bychowsky, and Kaikuranta to include the features of that the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached, as suggested by Lu, since the use of a buffer threshold is well known and conventional in the art since it indicates the maximum number of packets that may be stored in order to avoid overflow.

Regarding claims 40 and 41, the combination of Benveniste, Bychowsky, Kaikuranta, and Lu disclose the method and program storage device of claims 1 and 13, in addition Benveniste discloses wherein transmitting occurs during an awake mode of said wireless

communication device (Abstract, lines 5-13; paragraph [0077], lines 5-14; paragraph [0122], lines 1-13; and paragraph [0130], lines 1-14; the wireless stations transmit high and lower urgency packets, it is inherent that the wireless station are in an awake or active mode when transmitting the packets).

7. **Claims 2-6, 10-12, 14-18, and 22-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over BENVENISTE in views of BYCHOWSKY et al., KAIKURANTA et al., LU et al., and BEACH et al. (US 2004/0072588 A1).

Regarding claims 2 and 14, the combination of Benveniste, Bychowsky, Kaikuranta, and Lu disclose the method and program storage device of claims 1 and 13, but the combination fails to particularly disclose further comprising storing in a buffer said one or more data packets during a power save mode of said wireless communication device. However, Beach teaches that it is well known in the art for mobile units to operate in power saving mode to maximize the life of their batteries. During the power save mode the transmitter and receiver of the mobile unit are powered down for a selected period and the mobile unit accumulates generated transmit packets in a buffer in the selected period of time. Then, in active time period, the mobile unit powers up the transmitter/receiver to transmit the previously accumulated transmit packets (paragraphs [0004], [0005] lines 14-22; [0021]-[0022], and [0026]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to include the feature of storing in a buffer said one or more data packets during a power save mode of the wireless communication device, as suggested by Beach, since such a modification would allow the wireless communication device to conserve power given that the wireless

communication device would be buffering packets for a selected period and activating its transmitter only for short period of times.

Regarding claims 12 and 24, the combination of Benveniste, Bychowsky, Kaikuranta, Lu, and Beach disclose the method and program storage device of claims 2 and 14, in addition Beach discloses comprising disabling a transmitter during said power save mode (paragraph [0005] lines 1-21; [0019] lines 1-12; the mobile units power down their transmitters to conserve power).

Regarding claims 3 and 15, the combination of the combination of Benveniste, Bychowsky, Kaikuranta, and Lu disclose the method and program storage device of claims 40 and 41, but the combination fails to particularly disclose wherein transmitting during an awake mode comprises transmitting said one or more packets in response to a wake-up trigger. However, Beach teaches that a mobile unit can enter a power save mode in where the mobile unit power downs its transmitter and does not transmit packets during most of selected period of times T, during the selected period of time the mobile unit buffers transmit packets and at T/R active intervals (i.e., wake-up trigger) the mobile unit activates (i.e., awakes) its transmitter to transmit the transmit packets (paragraph [0005] lines 14-22, [0022]-[0023]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to include the feature of wherein transmitting during an awake mode comprises transmitting said one or more packets in response to a wake-up trigger, as suggested by Beach, because such as modification would allow the wireless communication device to awake and transmit only during selected periods of time in order to maximize their battery life.

Regarding claims 4 and 16, the combination of the combination of Benveniste, Bychowsky, Kaikuranta, Lu, and Beach disclose the method and program storage device of claims 3 and 15, in addition Beach discloses wherein said wake-up trigger relates to an aggregate anticipated transmission time of the one or more data packets (Fig. 3; paragraph [0022]; T/R active intervals 64, 66, and 68 are the intervals of time designated for the transmission of packets buffered at the mobile unit).

Regarding claims 5 and 17, the combination of the combination of Benveniste, Bychowsky, Kaikuranta, Lu, and Beach disclose the method and program storage device of claims 3 and 15, in addition Kaikuranta discloses wherein said wake-up trigger relates to an aggregate size of the one or more data packets (col. 5, line 62 – col. 6, lines 1-11; Kaikuranta teaches that the data stored in the buffer is transmitted when the buffer becomes full, therefore, the mobile telephone has to wake up to transmit the data).

Regarding claims 6 and 18, the combination of the combination of Benveniste, Bychowsky, Kaikuranta, Lu, and Beach disclose the method and program storage device of claims 3 and 15, in addition Beach discloses wherein said wake-up trigger relates to a period of time during which no data packets are sent for transmission (paragraph [0022] lines 1-9; the mobile unit awakes to activate its transmitter in the T/R active interval to transmit packets accumulated or received in a previous time period).

Regarding claims 10, 11, 22, and 23, the combination of Benveniste, Bychowsky, Kaikuranta, and Lu disclose the method and program storage device of claims 40 and 41, but the combination fails to particularly disclose wherein transmitting during an awake mode comprises

transmitting an awake mode signal to indicate a start of said awake mode, and transmitting a power save signal to indicate an end of said awake mode.

However, Beach teaches that a mobile unit can enter a power save mode in where the mobile unit power downs its transmitter and does not transmit packets during most of selected period of times T, during the selected period of time the mobile unit buffers transmit packets and at T/R active intervals (i.e., wake-up trigger) the mobile unit activates (i.e., awakes) its transmitter to transmit the accumulated transmit packets. To transmit the packets the mobile unit sends a signal to the access point indicating that the mobile unit is no longer is a power save mode and has gone to a communications active (CAM) mode (i.e., awake mode signal) and the access point sends an acknowledgement and transmit packets buffered at the access point, and when the mobile unit goes back to a power save mode its sends a signal indicating that is entering the power save mode (paragraph [0005] lines 14-22, [0022]-[0023], and [0026]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to include the feature of transmitting an awake mode signal to indicate a start of said awake mode and transmitting a power save signal to indicate an end of said awake mode, as suggested by Beach, to notify the access point the instances when the wireless communication device is active so that the access points can send buffered packets to the wireless communication device and when to start the buffering of packets at the access point.

8. **Claims 25-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over BEACH et al. in views of BYCHOWSKY et al. (US 6,856,628 B1), KAIKURANTA et al., and LU et al.

Regarding claim 25, Beach discloses an apparatus comprising:

a buffer to store one or more data packets (Fig.2; p.0014; (p.0021; p.0022, lines 1-3; p.0031, lines 1-7; the mobile unit accumulates a received audio packet in buffers A and B in the external memory 38); and

a transmitter operatively coupled to said buffer (Fig.2, RF module 36 coupled to the buffer, e.g. external memory, through the processor), said transmitter configured to transmit during an awake mode of said apparatus said one or more data packets (p.0022, lines 3-9).

But, Beach fails to particularly disclose wherein the packets stored in the buffer are packets determined to be not high priority, and the packets transmitted are packets determined to be of high priority.

However, these features are well known in the art and Bychowsky is evidence of the fact. Bychowsky teaches a packet prioritization and transmission algorithm for the transportation of data packets having different priorities. The algorithm determines the priority of the packets and if the packets are determined to be of low priority, the transmission is ended and the packets are placed in a storage means, the packets determined to be of high priority are transmitted. Later, the low priority packets are transmitted once the transmission of the high priority packets is finished (Abstract; col. 2, lines 3-50). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Beach to include the feature of storing data packets determined to be not high priority in a buffer and transmitting the packets determined to be of high priority, as suggested by Bychowsky, because such a modification would avoid the held up and the unacceptable delay in high priority transmissions since the lower priority packets would be held or stored until the transmission of high priority packets is terminated (col. 1, lines 25-36; col. 2, lines 27-42).

The combination of Beach and Bychowsky does not particularly disclose wherein the apparatus transmit the data packets determined to be not high priority upon the occurrence of a full buffer condition.

However, Kaikuranta teaches a mobile phone comprising a FIFO buffer for temporarily store data in the audio and slow data channels. The buffer has a selected size so that when the buffer is full the data will be transmitted in order to not overflow the buffer (col. 5, line 62 – col. 6, lines 1-11). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Beach and Bychowsky to include the feature of transmitting the data packets determined to be not high priority upon the occurrence of a full buffer condition, as suggested by Kaikuranta, in order to avoid the overflow of the buffer and the discarding of low priority packets when the buffer becomes full.

Nevertheless, the combination of Beach, Bychowsky, and Kaikuranta does not particularly disclose wherein the buffer is considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached.

However, Lu teaches the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached (col. 2, lines 33-36; col. 4, lines 38-53). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Benveniste, Bychowsky, and Kaikuranta to include

the features of that the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached, as suggested by Lu, since the use of a buffer threshold is well known and conventional in the art since it indicates the maximum number of packets that may be stored in order to avoid overflow.

Regarding claim 26, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the apparatus of claim 25, in addition Beach discloses further comprising a processor adapted to transmit an awake signal to indicate a start of an awake mode (Fig.2; p.0008, lines 1-4; p.0026, lines 10-16; the mobile unit comprises a processor 32 that causes that the RF module to transmit a signal indicating the that the mobile unit has gone to the communications active (CAM) mode).

Regarding claim 27, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the apparatus of claim 26, in addition Beach discloses wherein said processor is further adapted to transmit a power save signal to indicate an end of said awake mode (p.0026, lines 20-23).

Regarding claim 28, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the apparatus of claim 27, in addition Beach discloses comprising a disabling unit to disable said transmitter during said power save mode (p.0022, lines 1-3; p.0026, lines 8-10; the processor shuts down the RF module, e.g. transmitter/receiver, in the power save mode of the mobile unit).

Regarding claim 29, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the apparatus of claim 28, in addition Beach discloses wherein said disabling unit is able to enable said transmitter during said power save mode (Fig. 3; p.0022, lines 1-9; the mobile unit is in a power save mode during most of each time period T and briefly awake during an initial portion of time period T for transmitting accumulated data).

Regarding claim 30, Beach discloses a wireless communication device comprising:

a buffer to store one or more data packets (Fig.2; p.0014; (p.0021; p.0022, lines 1-3; p.0031, lines 1-7; the mobile unit accumulates a received audio packet in buffers A and B in the external memory 38); and

a transmitter operatively coupled to said buffer (figure 2; RF module 36 coupled to the buffer, e.g. external memory, through the processor), said transmitter configured to transmit data packets (p.0022, lines 3-9); and

an antenna operationally coupled to said transmitter (figure 2; antenna 42).

Beach does not expressly disclose wherein the antenna is an omni-directional type antenna. However, at the time of the invention, it would have been obvious matter of design choice to a person of ordinary skill in the art to couple an omni-directional antenna to the transceiver because Applicant has not disclosed that an omni-directional antenna provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art would have expected Applicant's invention to perform equally well with any other known type of antenna (as admitted by Applicant in his specification (page 4, lines 22-26) omni-directional antenna are known in the art).

Also, Beach fails to particularly disclose wherein the packets stored in the buffer are packets determined to be not high priority, and the packets transmitted are packets determined to be of high priority.

However, these features are well known in the art and Bychowsky is evidence of the fact. Bychowsky teaches a packet prioritization and transmission algorithm for the transportation of data packets having different priorities. The algorithm determines the priority of the packets and if the packets are determined to be of low priority, the transmission is ended and the packets are placed in a storage means, the packets determined to be of high priority are transmitted. Later, the low priority packets are transmitted once the transmission of the high priority packets is finished (Abstract; col. 2, lines 3-50). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Beach to include the feature of storing data packets determined to be not high priority in a buffer and transmitting the packets determined to be of high priority, as suggested by Bychowsky, because such a modification would avoid the held up and the unacceptable delay in high priority transmissions since the lower priority packets would be held or stored until the transmission of high priority packets is terminated (col. 1, lines 25-36; col. 2, lines 27-42).

But, the combination of Beach and Bychowsky does not particularly disclose wherein the wireless communication device transmit the data packets determined to be not high priority upon the occurrence of a full buffer condition. However, Kaikuranta teaches a mobile phone comprising a FIFO buffer for temporarily store data in the audio and slow data channels. The buffer has a selected size so that when the buffer is full the data will be transmitted in order to not overflow the buffer (col. 5, line 62 – col. 6, lines 1-11). Therefore, it would have been

obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Beach and Bychowsky to include the feature of transmitting the data packets determined to be not high priority upon the occurrence of a full buffer condition, as suggested by Kaikuranta, in order to avoid the overflow of the buffer and the discarding of low priority packets when the buffer becomes full.

Nevertheless, the combination of Beach, Bychowsky, and Kaikuranta does not particularly disclose wherein the buffer is considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached.

However, Lu teaches the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached (col. 2, lines 33-36; col. 4, lines 38-53). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Benveniste, Bychowsky, and Kaikuranta to include the features of that the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached, as suggested by Lu, since the use of a buffer threshold is well known and conventional in the art since it indicates the maximum number of packets that may be stored in order to avoid overflow.

Regarding claim 31, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication device of claim 30, in addition Beach discloses further comprising a processor to produce said one or more data packets (figure 2; P.0009, lines 12-17; p.0021, lines 15-18; p.0022, lines 3-6; the processor compresses the accumulated data and convert the data in a transmit packet).

Regarding claim 32, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication device of claim 30, in addition Beach discloses wherein said transmitter is further adapted to transmit an awake mode signal to indicate a start of an awake mode (Fig.2; p.0008, lines 1-4; p.0026, lines 10-16; the RF module transmit a signal indicating the that the mobile unit has gone to the communications active (CAM) mode).

Regarding claim 33, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication device of claim 32, in addition Beach discloses wherein said transmitter is further adapted to transmit a power save mode signal to indicate an end of said awake mode (p.0026, lines 20-23; the mobile unit transmit a signal to the access point indicating that is entering a power save mode).

Regarding claim 34, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication device of claim 32, in addition Beach discloses further comprising a power source and circuitry to connect said transmitter to said power source during said awake mode (figure 2; p.0022, lines 1-6; p.0031, lines 1-4; the mobile unit is powered by its battery 40; and the processor connects the battery to the RF module and selectively turns on the RF module for transmission of a data packet).

Regarding claim 35, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication device of claim 34, in addition Beach discloses comprising circuitry to disconnect said transmitter from said power source during a power save mode (p.0022, lines 1-3; p.0026, lines 8-10; the processor shuts down the RF module, e.g. transmitter/receiver, in the power save mode of the mobile unit).

Regarding claim 36, Beach discloses a wireless communication system comprising:

a first wireless device adapted to schedule packets for transmission to an access point (p.0026, lines 1-16; the mobile unit activates its RF module to transmit accumulated data packets);

store data packets in a buffer (Fig.2; p.0014; (p.0021; p.0022, lines 1-3; p.0031, lines 1-7; the mobile unit accumulates a received audio packet in buffers A and B in the external memory 38); and

a second wireless device adapted to receive said one or more data packets (it is inherent that the data packets transmitted to the access point are ultimately destined for another wireless communication device).

But, Beach fails to particularly disclose wherein the first wireless communication device determine the priority of each of a set of data packets to be transmitted to an access point, as being high priority or not high priority, schedule the packets determined to be high priority and the packets stored in the buffer are the packets determined to be not high priority.

However, these features are well known in the art and Bychowsky is evidence of the fact. Bychowsky teaches a packet prioritization and transmission algorithm for the transportation of data packets having different priorities. The algorithm determines the priority of the packets and

if the packets are determined to be of low priority, the transmission is ended and the packets are placed in a storage means, the packets determined to be of high priority are transmitted. Later, the low priority packets are transmitted once the transmission of the high priority packets is finished (Abstract; col. 2, lines 3-50). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Beach to include the feature of determining the priority of the transmit packets in order to store the data packets determined to be not high priority in a buffer and transmitting the packets determined to be of high priority, as suggested by Bychowsky, because such a modification would avoid the held up and the unacceptable delay in high priority transmissions since the lower priority packets would be held or stored until the transmission of high priority packets is terminated (col. 1, lines 25-36; col. 2, lines 27-42).

But, the combination of Beach and Bychowsky does not particularly disclose the packets determined to be not high priority are transmitted upon the occurrence of a full buffer condition.

However, Kaikuranta teaches a mobile phone comprising a FIFO buffer for temporarily store data in the audio and slow data channels. The buffer has a selected size so that when the buffer is full the data will be transmitted in order to not overflow the buffer (col. 5, line 62 – col. 6, lines 1-11). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Beach and Bychowsky to include the feature of transmitting the data packets determined to be not high priority upon the occurrence of a full buffer condition, as suggested by Kaikuranta, in order to avoid the overflow of the buffer and the discarding of low priority packets when the buffer becomes full.

Nevertheless, the combination of Beach, Bychowsky, and Kaikuranta does not particularly disclose that the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packet stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached.

However, Lu teaches the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached (col. 2, lines 33-36; col. 4, lines 38-53). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination of Benveniste, Bychowsky, and Kaikuranta to include the features of that the buffer being considered full according to at least one condition selected from the list consisting of: a threshold number of packets stored in the buffer being reached; a threshold size of stored packets being reached; and a threshold aggregated time of transmission for buffered packets being reached, as suggested by Lu, since the use of a buffer threshold is well known and conventional in the art since it indicates the maximum number of packets that may be stored in order to avoid overflow.

Regarding claim 37, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication system of claim 36, in addition Beach discloses wherein said second wireless device is further adapted to transmit during an awake mode one or more data packets sent for transmission during a power save mode (p.0026, lines 16-20; the access point transmits any received packet that is destined to the mobile unit and buffered in the access

point during the power save period, note that the packets buffered at the access point were transmitted from other wireless communication devices).

Regarding claim 38, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication system of claim 37, in addition Beach wherein said first wireless device is further adapted to transmit an awake mode signal to indicate a start of an awake mode (p.0026, lines 8-16; the mobile unit transmits the accumulated packets to the access point along with a signal that the mobile unit has gone to the communication active (CAM) mode).

Regarding claim 39, the combination of Beach, Bychowsky, Kaikuranta, and Lu disclose the wireless communication system of claim 38, in addition Beach discloses wherein said first wireless device is further adapted to transmit a power wave mode signal to indicate an end of said awake mode (p.0026, lines 20-23; the mobile unit signals the access point when entering the power save mode).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marisol Figueroa whose telephone number is (571) 272-7840. The examiner can normally be reached on Monday Thru Friday 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marisol Figueroa

Marisol Figueroa
Art Unit 2617

LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER